

IVANTSOV, G.P.; LYUBOV, B.Ya.; POLYAK, B.T.; ROYTHURD, A.L.

Calculation of the crystallization of a metallic ingot with various types of heat flow through its surface. Inzh.-fiz. zhur. no.3:41-47 Mr '60. (MIRA 13:10)

1. Institut chernoy metallurgii, Moskva.
(Crystallization)

25421

S/137/61/000/005/014/092

A006/A101

11.7200

AUTHORS: Ivantsov, G.P., Kudryavtseva, Z.M.

TITLE: Investigating aerodynamics of an assimilable and non-assimilable gas flame in a liquid

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no: 6, 1961, 3, abstract 6B19 ("Sb. tr. Tsentr. n.-i. in-ta chernoy metallurgii", 1960, no. 21, 297 - 316)

TEXT: The authors studied the structure of air and hydrogen jets (non-assimilable gases) and vapor and ammonia jets (assimilable gases) blown into water. Analogous processes take place when blowing various gases (such as O_2) into molten metal. For the case of blowing non-assimilable gases, a dependence is established between the contour and visually observed flame structure and the gas pressure. It was established that the ratio of densities of the liquid and the gas plays a secondary part in the formation of the flame. The configuration of the flame in the nozzle zone does not depend on changes in the direction of blast. The authors studied the dependence of the depth of immersing the flame into the

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25421

Investigating aerodynamics ...

S/137/E1/000/006/014/092
AOC6/A101

liquid during inclined blast directed downwards, on the Archimedes criterion.
It appeared that approximate calculated coefficients of heat transfer through
the surfaces of phase interfaces were very high ($1.5 \cdot 10^6 - 2.0 \cdot 10^6$ kcal/m²
hour).

V. Arutyunov

[Abstracter's note: Complete translation]

Card 2/2

18.9500

28019
S/081/61/000/015/008/139
B101/B110

AUTHORS: Ivantsov, G. P., Polyak, B. T.

TITLE: Stability problems of the regular shape of a crystal

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 15, 1961, 34-35,
abstract 156236 (Sb. tr. Tsentr. n.-i. in-ta chernoy
metallurgii, no. 21, 1960, 464-479)

TEXT: The growth of a crystal completely surrounded by a melt was theoretically studied in a single-component system. For spherical and cylindrical crystals of a pure substance the law of growth was obtained from an undercooled melt. The authors studied the stability of the growth process with the occurrence of random "perturbations" in the form of a deviation of the crystal shape from the rigid sphericity. It was concluded that a certain "stability radius" exists which depends on the undercooling of the melt and below which the shape of the spherical crystal is stable. As soon as the spherical crystal in the growth process has attained the stability radius disturbances may form which grow more rapidly than the main crystallization front and which take on the shape

Card 1/2

Stability problems of the regular ...

28019
S/081/61/000/015/008/139
B101/B110

of needles. At a certain distance from the point the radius of curvature of the needle becomes sufficiently long so that the needle in turn loses the stability and forms side branches. If this process is repeated several times dendrites are formed. The authors state that their opinion on the mechanism of dendrite crystallization exclude their concepts on a "critical undercooling" (degree of undercooling below which dendrite crystallization becomes impossible). The authors instead assume less categorically a large stability radius at a low degree of undercooling. A qualitative study of the process of simultaneous growth of numerous crystallization centers shows that compared to the presence of only one single center, easy and difficult dendrite formations are possible. For the growth of real polyhedral crystals the same conclusions are valid with the difference that the points of crystalline polyhedra are to be considered already as disturbances. Under favorable conditions these disturbances may become needles. Hence, the crystal structure of the solidifying substance determines the number of dendrite branches and their orientation but not their conditions of formation. [Abstracter's note: Complete translation.]

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11001

S/058/62/000/009/020/069
A006/A101

18.9500

AUTHOR: Ivantsov, G. P.

TITLE: Thermal and diffusion processes during crystal growth. II

PERIODICAL: Referativnyy zhurnal, Fizika, no. 9, 1962, 9, abstract 9E62
(In collection: "Rost kristallov. T. 3", Moscow, AN SSSR, 1961,
75 - 84, Discussion, 214 - 218)

TEXT: The author investigated growth phenomena of schematic-shaped crystals under simplified conditions on interfaces, by taking into account heat and mass exchange of the crystal with the melt. He analyzes regularities in the growth of spherical crystals at a constant rate, the composition of a crystal nucleus being in an equilibrium with a supercooled binary alloy melt, distribution of temperatures and concentrations around the growing crystal. The conclusion is drawn that, as the crystal grows, the temperature on its surface and its concentration approach the equilibrium values. In this connection the growth of crystals of different shapes (sphere, infinite cylinder, plane, paraboloid of revolution, parabolic cylinder, ellipsoid of revolution) is analyzed at constant

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Thermal and diffusion processes...

S/058/62/000/009/020/069
A006/A101

temperature on the surface. In all the cases listed, the Pekle criterion $Pe = w_n n / a$ (w_n is the normal rate of growth, n - is the length of the normal, a - is the coefficient of thermal diffusivity) remains constant over the entire crystal surface during the whole process of growth. By the analysis of the growth of a bundle of crystal needles, the author comes to the conclusion that the crystals are always shaped in such a manner (polyhedral or irregular) that the most rapid relieving of supercooling (oversaturation) is assured, i.e. the quickest approach of the system to equilibrium. Part I, see RZhFiz, 1958, no. 3, 5995.

Yu. Kristal

[Abstracter's note: Complete translation]

Card 2/2

8/0137/64/000/005/D028/D028

ACCESSION NR: AR4041590

SOURCE: Ref. zh. Metallurgiya, Abs. 5D160

AUTHOR: Astaf'yev, F. S.; Vokhomskiy, N. S.; Zlatoustovskiy, D. M.; Ivantsov, C.I.;
Prished'ko, V. N.; Selivanov, N. M.

TITLE: Changes of structural state and hardness of hardened layer of working rollers of continuous sheets of cold rolling mills as a result of exploitation

CITED SOURCE: Sb. nauchn. tr. Magnitogorskiy gornometallurg. in-t, vy*p. 28, 1963,
282-306

TOPIC TAGS: cold roller, working roller, structural state, hardness

TRANSLATION: On the basis of conducted investigations of rollers of cold rolling, the following conclusions can be made. The requirements of GOST 3541-57 for active layer thickness of cold rolling working rollers are met nearly twofold for hardened rollers after flame heating and current of industrial frequency with triple preheating. For hardened rollers after heating current of industrial frequency with a single preheating and volume heating, thickness of active layer is one third less

Card 1/3

ACCESSION NR: AR4041590

than requirements of GOST. Microstructures of rollers of different factory-producers are very diverse both in hardened zones and also in central parts of sections. In the central parts of rollers not having an axial hole, contamination and porosity are small and do not impair the strength properties. In the process of work of cold rolling rollers, their hardened layer experiences deep structural changes, connected with decomposition of austenite and tempering of martensite. These processes proceed with different completeness in different parts of the roller and are accompanied by formation of sections with nonuniform and lowered hardness, imparting to hardened layer anisotropy of properties, which accelerates wear and breakdown of rollers. The hardness maxima, quantity of residual austenite, and content of C in tempered martensite of hardened layer of working rollers are located at a depth of 3-5 millimeters from surface of barrel and their absolute values change on circumference of rollers. These maxima, in the course of work of the roller and its overabrasion, decrease in magnitude and shift deep into the hardened layer, remaining as before at a distance of 3-4 millimeters from surface of barrel. According to appraisal data, it is expedient to subject the working rollers, lowering the surface hardness below the permissible level ($59 R_C$), to overtempering for restoration of properties of hardened layer, which can significantly increase completeness of use of rollers. Conditional economy due to restoration of worn out rollers alone

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ACCESSION NR: AR4041590

amounts to ~30% of the total amount of working rollers of cold rolling.

SUB CODE: MM

ENCL: 00

Card 3/3

G.P.
DIALECT, G.P. 1966-1967, 1968.

Investigating the breakdown of Soviet Communist Party functions.
1966-1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975.

(MIRA 18-1)

1. Identifying new and old military units and their
activities in the I.P. Section.

S/126/60/010/005/023/030
E111/E452

AUTHORS: Ivantsov, I.G., Finkel', V.A. and Amonenko, V.M.

TITLE: Influence of Carbon on the Phase Composition of an Austenitic Fe-Cr-Ni Base Alloy

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol.10, No.5, pp.780-782

TEXT: The object of the present work was to elucidate the influence of carbon on the phase composition of austenitic steels as exemplified by high-vacuum melted alloys after different heat treatments in air. The range of composition covered (%) was: 0.02 to 0.2 C, 22.0 Cr, 25.0 Ni, 7.0 W, 2.0 Mo, 2.0 Co, 2.6 Ti, 0.05 B, 0.15 Al, remainder Fe. The phase composition of electrolytically obtained residues was determined by the X-ray method (Ref.5 to 9), solution being effected over several hours at 0.05 to 0.06 A/cm² and 12 to 15 V in a solution of 10 g each of ammonium sulphate and citric acid in 1200 ml water. The results (Tables 1 and 2) for alloys hardened from 1200 with and without subsequent ageing at 800°C show a substantial effect of carbon on phase transformations. During ageing, the chromium carbide found after hardening changes into a form which is more stable at heat-
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S/126/60/010/005/023/030
E111/E452

Influence of Carbon on the Phase Composition of an Austenitic
Fe-Cr-Ni Base Alloy

treatment temperatures. There were no TiC lines in X-ray diffraction patterns from aged specimens, probably because of excess of other secondary phases in the residue. The temperature threshold for the sigma-phase is below 950°C and the concentration "Threshold" is about 0.035%. If alloying elements enter appreciably into the intermetallic compounds, they leave the solid solution and the solubility of carbon rises. The mechanism of sigma-phase formation during ageing at 800°C is more likely to be directly from austenite and not in association with chromium-carbide formation. V.S.Kogan made valuable comments on this work. There are 2 tables and 13 references: 7 Soviet and 6 Non-Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR
(Physical-Technical Institute AS UkrSSR)

SUBMITTED: February 27, 1960

Card 2/2

IVANTSOV, I.G., inzh.; AZMAZIA, V.M., inzh.; AMONENKO, V.M., inzh. (MIRA 15:6)

Vacuum-smelted, heat-resistant, iron-base alloy castings.

Metalloved. 1 term. obr. met. no.7:43-45 J1 '62. (MIRA 15:6)

1. Fiziko-tekhnicheskii institut AN USSR.
(Iron alloys--Thermal properties)
(Vacuum metallurgy)

AMONENKO, V.M.; BLINKIN, A.M.; IVANTSOV, I.G.

Self-diffusion in strongly diluted binary solutions. Part 1. Effect of additions of tin and antimony on the self-diffusion of iron in the α -phase. Fiz. met. i metalloved. 17 no.1:56-62 Ja '64. (MIRA 17:2)

1. Fiziko-tekhnicheskiy institut AN UkrSSR i Khar'kovskiy gosudarstvennyy universitet im. A.M.Gor'kogo.

1 07387-61 EWT(m)/EWP(w)/EWP(t)/ETI LJP(c) JD/HW
ACC NR: AP6027745 SOURCE CODE: UR/0370/66/000/004/0090/0098

AUTHOR: Ivantsov, I. G. (Khar'kov); Savchenko, V. I. (Khar'kov)

ORG: None

TITLE: Effect of metal impurities on the mechanical properties of nickel under tension 34
B

SOURCE: AN SSSR. Izvestiya. Metally, no. 4, 1966, 90-98

TOPIC TAGS: ductility, yield stress, tensile strength, nickel, metal property

ABSTRACT: The authors study binary alloys of nickel with admixtures of Sn, Sb, Pb and Bi using four compositions with each individual admixture. The test specimens had a working length of 20 mm and a 4 mm² cross section. The effect which the given four admixtures have on the mechanical properties of nickel (breaking strength σ_b , yield stress σ_s , relative elongation δ and relative reduction in the area of the cross section ψ) was studied in a vacuum of 10^{-5} mm Hg on a tensile testing machine with a constant loading rate at temperatures of 20, 300, 500, 700 and 800°C. Analysis of the resultant data shows that σ_b is approximately 10% higher for nickel with a tin concentration of 0.015% than for pure nickel in the 20-500°C range and that this difference disappears with an increase in testing temperature with a reversal to 10% lower σ_b for

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UDC: 669.24.018

L 07387-67
ACC NR:

AP6027745

nickel containing tin in comparison with pure nickel at 800°C. Antimony in concentrations up to 0.013% has no significant effect on the breaking strength of nickel in the given temperature range. Lead and bismuth reduce breaking strength at all temperatures with a difference of about 20% at 700°C. The yield stress of the alloys shows little change in comparison with pure nickel at any temperature, although there is a slight increase in σ_0 at approximately 300°C both for pure nickel and for the

solutions studied. Alloys with maximum admixture concentrations show somewhat of an increase in ductility near 300°C. The given impurities have the greatest effect on nickel properties, particularly ductility, in the high temperature range. The value of δ in the alloys with maximum Pb and Bi concentrations is 15-30% lower than for pure nickel with even more of a reduction at high temperatures. At 700-800°C the difference reaches a factor of 3-4. Similar changes are observed in ψ as a function of temperature and impurity with the exception of tin which increases the ductility of nickel. Only at 700°C is there a slight reduction in δ in comparison with pure nickel. Beyond this point the ductility of the Ni-Sn alloy increases sharply, the values of δ and ψ reaching 3 times those of pure nickel at 800°C. Orig. art. has: 3 figures, 2 tables.

SUB CODE: 11/ SUBM DATE: 12Feb65/ ORIG REF: 009/ OTH REF: 005

Card 2/2 LS

GUBAR', M.A.; KORSH, L.Ye. KABANOV, N.M.; VOROB'YEVA, R.V.; GASILINA, M.M.;
DZHUMAYEV, K.D.; IVANTSOV, K.P.; OVEZOV, A.O. Priiniall uohantlye:
BYLINKINA, A.A.; YELAKHOVSKAYA, N.P.; LISICHKINA, T.I.

Hygienic characteristics of economical drinking water sources
in districts of the Murgab Oasis. Zdrav. Turk. 7 no. 5:28-32 (41)
May '63. (MIRA 16:8)

(OASIS REGION—DRINKING WATER)

VASIL'KOV, G. V. (Animal Husbandry Department, VASKHNIL) and Ivantsov, L. M. I.
(Veterinary Administration, RSFSR Ministry of Agriculture).

"The white-muscle disease of young agricultural animals, and the organization of its control (Addition to the data ~~concerning~~ concerning the Coordinational Conference of VASKHNIL)."

Veterinariya, Vol. 38, No. 4, 1961, p. 66.

LEVENBERG, I.G., kand.veterinarnykh nauk; IVANTSOV, L.I.; PROSTAKOV, M.P.

Stachybotryotoxicosis in cattle. Veterinariia 38 no. 10:38-41
O '61. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy
sanitarii (for Levenberg). 2. Upravleniye veterinarii Ministerstva
sel'skogo khozyaystva RSFSR (for Ivantsov). 3. Nachal'nik
veterinarnogo otdela Kurskogo oblastnogo upravleniya sel'skogo
khozyaystva (for Prostakov).

(Cattle--Diseases and pests) (Fungi, Pathogenic)

VASIL'KOV, G.V.; IVANTSOV, L.I.

White muscle disease in young farm animals and the organization
of measures for its control. Veterinariia 38 no.4:66-70 Ap '61
(MIRA 18:1)

1. Otdeleniye zhivotnovodstva Vsesoyuznoy akademii sel'skokhozyay-
stvennykh nauk imeni Lenina (for Vasil'kov). 2. Upravleniye vete-
rinarii Ministerstva sel'skogo khozyaystva RSFSR (for Ivantsov).

KUZNETSOV, V.F.; IVANTSOV, L.I.

Results of the use of tissue preparations on the collective and
state farms in the Russian Federation. Veterinariia 40 no.8:9-10
Ag '63. (MIRA 17:10)

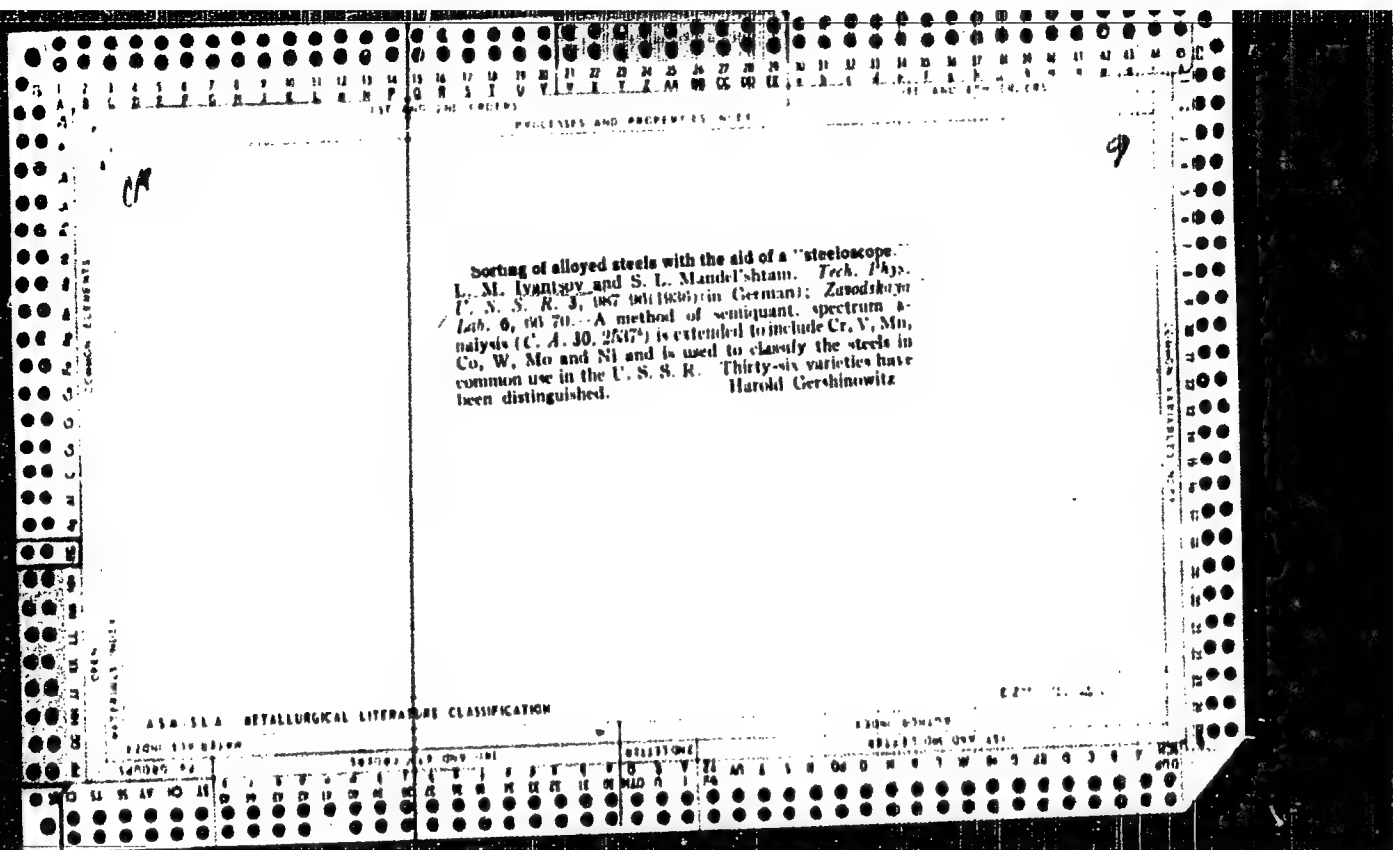
1. Zamestitel' nachal'nika Upravleniya veterinarii Ministerstva
proizvodstva i zagotovok sel'skokhozyaystvennykh produktov RSFSR.

VORONIN, M.V., kand. veterin. nauk; IVANTSOV, L.I.

Ridding cattle of warble flies as an urgent task. Veterinariia
41 no.2:53-58 F '64. (MIRA 17:12)

1. Upravleniye veterinarii Ministerstva proizvodstva i zagotovok
sel'skokhozyaystvennykh produktov RSFSR (for Voronin). 2. Glavnyy
veterinarnyy vrach Upravleniya veterinarii Ministerstva proizvodstva
i zagotovok sel'skokhozyaystvennykh produktov RSFSR (for Ivantsov).

<p>CA</p> <p>Some new constructions of apparatus for spectral analysis. L. M. Irenkov, <i>Dokl. akad. sci. U.S.S.R., Ser. phys.</i> 9, 723-5 (1945). — The following new designs are described: (1) an autocollimating spectroscopy in which the light of the slit is focused by a lens on a combination of a Cornu and a Littrow prism and reflected back through the same optical system on a teleobjective lens, and which has a compact structure with few components; (2) a visual photometer with a rotating biprism, mirrors, and an optical wedge which allows the spectrum to be split in two and the lines to be compared directly; (3) a portable spectroscopy with increased dispersion; (4) a transformation of a spectroscopy into a spectrograph for near ultraviolet, with application in the analysis of ferrous metal; (5) a microphotometer.</p> <p>S. P. Akhmet</p>		<p>1</p>	
		<p>RESEARCH AND DEVELOPMENT</p>	
<p>ASB-6.6 METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>SECTION 6.6</p>		<p>SECTION 6.6</p>	
<p>SECTION 6.6</p>		<p>SECTION 6.6</p>	



1940

IVANTSOV, L. M.

May/Jun 1947

USSR/Metals
Bronze
Tin

"Spectral Analysis of Bronze and Tin, and the Grading of Ferrous and Nonferrous Alloys,"
M. E. Brintske, L. M. Ivantsov, V. V. Polyakova, 6 pp

"Iz Ak Nauk SSSR, Ser Fiz" Vol XI, No 3 p. 283

Discusses rapid determination of tin, zinc and lead in stannic bronzes, the quantitative spectral analysis of tin on copper or iron, a method for distinguishing between ferrous and nonferrous alloys with the aid of a styloscope, which is equipped with a photometric eyepiece, and the analysis of nonferrous and ferrous alloys. Sketches of the equipment. One of the comments appended to this work urges that the new eyepiece suggested by the author be turned out in quantity to supply all the requirements of the industry.

PA-24T83

IVANTSOV, L. M.

USSR/Physica

Spectrophotometry

Color - Measurements

Jul/Aug 47

"Photoelectric Spectrophotometer for Investigating the Chromatic Microstructure of Painted Surfaces and Solutions," A. S. Borovik-Romanov, L. M. Ivantsov, 5 pp

"Iz Ak Nauk, Ser Fiz" Vol XI, No 4, p. 443

This work is a record of investigations on the comparative attainments of photoelectric equipment used for various methods of spectral analysis. During a change of intensity of the spectrum lines in the emission spectrums, some difficulty was met during the experiments, in that it was difficult to separate the lines, and eliminate radio-technical interference. Discusses the construction of the apparatus. Submitted at Phys Lab of the Res and Investigation Sec, Militia Admin, Moscow.

PA 28T92

M.E. Britske, L.N. Varshavskaja, L.M. Ivantsov. Spectrum analysis of metallic zinc:
P. 1207

State Scientific Res.
Inst. of Non-Ferrous
Metals.

SO: Factory Laboratory, No. 10, 1950

IVANTSOV, L. M.

Jan 50

USSR/Metals - Nickel Spectrum Analysis

"Determination of Admixtures in Metallic Nickel by the Method of Spectrum Analysis,"
L. N. Varshavskaya, L. M. Ivantsov, V. V. Polyakova, State Sci Res Inst of Nonferrous
Metals, 4 pp

"Zavod Lab" Vol XVI, No 1

Develops procedure for determination of iron, silicon, cobalt and copper in commercial grades of nickel over following ranges: Fe 0.05-0.3%, Si 0.15-0.25%, Co 0.30-0.75%, and Cu 0.03-0.30%. Method provides for using ISP-22 spectrograph, microphotometer, and condensed spark generator. Accuracy of determination (3.% for Fe, 4.6% for Si, 3.7% for Co, and 3.5% for Cu) thus obtained satisfies requirements of production control.

PA 159T60

PA 160T68

USSR/Metals - Analysis
Steeloscope

Apr 50

"Application of the Steeloscope With an Improved
Photometric Eyepiece for Rapid Analysis of Metals
and Alloys," L. M. Ivantsov, V. I. Malinina, V.
V. Polyakova, State Sci Res Inst of Nonferrous
Metals, 4 pp

"Zavod Lab" Vol XVI, No 4

Describes improved model of photometer and method
for rapid analysis of alloys with aid of steelo-
scope with photometric eyepiece. Determination
accuracy is close to that of analyses conducted

160T68

USSR/Metals - Analysis (Contd)

Apr 50

with steelometer. Eyepiece may be used with
steeloscope of any type.

160T68

IVANTSOV, L. M.

USSR/Physics - Spectral devices

Card 1/1 Pub. 43 - 37/97

Authors : Gerken, E. B., and Ivantsov, L. M.

Title : Selective light losses as result of diaphragming the arc luminosity by electrodes and the optics of the spectral installation

Periodical : Izv. AN SSSR. Ser. fiz. 18/2, page 267, Mar-Apr 1954

Abstract : The phenomenon of selective diaphragming was investigated for a standard ISP-22 spectrograph in combination with different illuminators and AC-arc in the role of light source. The effect of slit illumination methods on the relative spectral line intensity was studied for slits of various size. It was established that when the source illuminates the spectrograph slit directly - without the aid of optical media - then the illumination of the various zones of the source is most complete. The extent to which the relative intensity of spectral lines varies at a small slit is explained.

Institution : State Scientific Research Institute on Non-Ferrous Metals

Submitted :

USSR/ Chemistry - Spectral analysis

Card 1/1 Pub. 43 - 66/97

Authors : Britske, M. E.; Gerken, E. B.; Zdanovich, I. D.; Ivantsov, I. M.;
Kafanova, T. A.; Malinina, V. I.; Mironova, E. A.; and Polyakova, V. V.
Title : Spectrographic determination of admixtures in Pb, crude lead, water
jacket slag and certain powders

Periodical : Izv. AN SSSR. Ser. fiz. 18/2, 283-284, Mar-Apr 1954

Abstract : Report is presented on a complex of methodical works conducted by the
State Scientific Research Institute of Non-Ferrous Metals on the
determination of admixtures in lead, crude lead, water jacket slag and
certain powders by means of spectrographic methods. The results
obtained in those experiments are tabulated. Tables.

Institution : State Scientific Research Institute of Non-Ferrous Metals

Submitted :

Ivanov, L.M.

USSR/Optics -Optical Methods of Analysis. Instruments.

K-7

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 13138

Author : Averbukh, M.M., Ivantsov, L.M., Kandinov, A.V.

Inst : -

Title : Photoelectric Setup for High Speed Spectral Analysis, FEU-1

Orig Pub : Zavod. laboratoriya, 1954, 20, No 1, 57-62

Abstract : No abstract.

Card 1/1

IVANTSOV, L.M.

Spectral analysis in metallurgy. Priroda 44 no.8:20-27 Ag '55.
(MIRA 8:10)

(Spectrum analysis) (Metallurgical analysis)

18(6)

PHASE I BOOK EXPLOITATION

SOV/1754

Vsesoyuznoye soveshchaniye spektroskopistov-analitikov tsvetnoy metallurgii.
2d, Moscow, 1955

Materialy... (Papers Read at the Second All-Union Conference of Analytical Spectroscopists in Nonferrous Metallurgy) Moscow, Nauchno-tekhn. Ob-vo tsvetnoy metallurgii, 1957. 128 p. 1,000 copies printed.

Sponsoring Agency: Nauchno-tekhnicheskoye obshchestvo tsvetnoy metallurgii.

Editorial Board: M.E. Britske, A.N. Bronshteyn, N.I. Matveyev, V.V. Polyakova, L.N. Filimonov; Tech. Ed.: N.S. Trusov.

PURPOSE: This book is intended for analytical chemists in the field of nonferrous metallurgy.

COVERAGE: This is a collection of papers dealing with the use of the spectroscopic method as practiced in the USSR for the quantitative determination of various elements in the field of nonferrous metallurgy. Experience gained at several important Soviet metallurgical plants is described. In addition to

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Papers Read at the Second (Cont.)

SOV/1754

practical application of the method, a number of papers deal with problems in the production of standard samples. For a brief account of the state of affairs as of 1955 in this field in the USSR, see Table of Contents, first article. There are a few scattered references, both Soviet and non-Soviet.

TABLE OF CONTENTS:

1. Ivantsov, L.M. Introductory Remarks

3

The author states that between 1952 and 1955 the spectroscopic method came into wide use in Soviet nonferrous metallurgical plants and research institutes. New types of spectrographic instruments appeared and older ones were modernized. However, a serious lag is evidenced by the following considerations. The production of standard samples is inadequate. Some of the largest nonferrous metal combines still do not use the spectroscopic method. There is no overall coordination of laboratory research conducted at various institutes. There is still (1955) not a single Doctor of Sciences engaged in research in the spectrographic laboratories of any of these institutes, nor are there any immediate prospects for obtaining such personnel. Literature in the field is inadequately surveyed. No really satisfactory book on the subject has yet appeared in the Soviet Union.

Card 2/7

Papers Read at the Second (Cont.)

SOV/1754

2. Britske, M.E., A.I. Bronshteyn, Ye.B. Gerken, and L.M. Ivantsov [Gintsvetmet-State Institute for Non Ferrous Metals]. Quantitative Determination of Impurities in Molybdenum 9
3. Filimonov, L.N., N.A. Makulov, and Z. A. Zakharova [Giprotsvetmetobrabotka-State Planning and Research Institute for the Processing of Nonferrous Metals]. Spectro-analytic Determination of Impurities in Tungsten and Its Compounds 19
4. Britske, M.E. Spectroscopic Analysis of Slags 29
5. Yakobi, Yu. A. [VNIITsvetMet-All-Union Scientific Research Institute for Nonferrous Metals, Ust'-Kamenogorsk]. Spectroscopic Analysis of Lead-smelting Slags 34
6. Frenkel', O.D. [Unipromed'-Ukrainian Scientific Research Institute for the Design and Planning of Copper Industry Plants]. Quantitative Determination of Copper and Calcium in Waste Slags in the Copper Smelting Industry 39

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Papers Read at the Second (Cont.)

SOV/1754

7. Raykhbaum, Ya.D. [Giredmet-State Scientific Research Institute for Rare Metals, Irkutsk]. Spectroscopic Analysis in the Concentration of Rare-Metal Ores 40
8. Belousova, M.I. [Uralmekhanobr-Scientific Research Institute for Mechanical Treatment of Minerals, Urals Branch]. Semiquantitative Spectroscopic Analysis of Ores as Practiced at the "Uralmekhanobr" Institute 50
9. Filimonov, L.N. [Giprotsvetmetobrabotka]. Some questions of Principle and Organization in the Production of Standard Samples for Spectroscopic Analysis 53
10. Filimonov, L.N., and A.I. Essen [Giprotsvetmetobrabotka]. Production of Standard Samples at the Giprotsvetmetobrabotka Institute 61
11. Arakel'yan, N.A. [VNIITsvetMet, Ust'-Kamenogorsk]. Preparation of Standard Samples of the Spectroscopic Analysis of Lead in the Process of Refining 75

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Papers Read at the Second (Cont.)

SOV/1754

12. Gromoshinskaya, T.V. [Vsesoyuznyy alyuminiyevy-magniyevyy institut-All-Union Aluminum and Magnesium Institute, Leningrad]. Preparation of Standard Samples for the Spectroscopic Analysis of Light Metals 77
13. Spasskiy, A.G., A.V. Kurdyumov, and B.A. Fomin [Institut tsvetnykh metallov i zolota imeni Kalinina-Institute for Nonferrous Metals and Gold im. Kalinin, Moscow]. An investigation of Methods of Casting Standard Samples for the Spectroscopic Analysis of Bronzes 80
14. Fishkova, N.L. [Podol'skiy zavod vtorichnykh tsvetnykh metallov-Podol'sk Secondary Nonferrous Metals Plant]. From the Work Practice of the Spectrographic Laboratory of the Podol'sk Secondary Nonferrous Metals Plant 90
15. Sorokina, V. I. [Khar'kovskiy zavod vtorichnykh tsvetnykh metallov-Khar'kov Secondary Nonferrous Metals Plant]. Determination of Antimony, Tin, Copper, and Zinc in Antimonial Lead With the ST-7 Stylometer 94
16. Bratskaya, D.Ye. [Khar'kov Secondary Nonferrous Metals Plant]. Work Done at the Plant Spectrographic Laboratory 96

Card 5/7

Papers Read at the Second (Cont.)

SOV/1754

17. Berlin, T.I. [Moskovskiy bronzo-latunnyy zavod-Moscow Bronze and Brass Plant]. Application of Spectroscopic Methods of Analysis at the Moscow Bronze and Brass Plant 96
18. Dergalina, M.S. [Leninogorskiy polimetallicheskiy kombinat-Leninogorsk Polymetallic Combine]. From the Work Practice of the Spectrographic Laboratory of the Lead Plant of the Leninogorsk Polymetallic Combine 101
19. Kostrova, Z.P. [Novosibirskiy olovozavod-Novosibirsk Tin Plant]. Application of Spectroscopic Analysis at the Novosibirsk Tin Plant 103
20. Konyshova, N.M. [Podol'skiy olovozavod-Podol'sk Tin Plant]. Work practice of the Laboratory of the Podol'sk Tin Plant 107
21. Ginzburg, V.L., Ye.F. Alekseyenko, Ye.Ye. Belokrinskaya, I.N. Vitushkina, and F. M. Ineshina [Noril'skiy gornometallurgicheskiy kombinat-Noril'sk Mining and Metallurgical Combine]. On the Accuracy of Photographic Methods of Spectroscopic Analysis in Preparing Calibration Curves by Various Methods 109
22. Sirotin, S.D. ["Krasnyy Vyborzhets" Plant]. Quantitative Determination of Zinc in Chrome Bronze 124

Card 67

IVAN TSOV, L.M.

AUTHOR: Ivantsov, L.M.

TITLE: A Spectrographic Slit with a Steel Ring Control.
(Spektrograficheskaya shchel' s nepraviyayushkoi i v via.
stal'nogo kol'tsa)

PERIODICAL: Pribury i Tekhnika Eksperimenta, 1957, Nr 3, p. 102-110 (USSR)

ABSTRACT: A new type of spectrographic slit is described. The slit consists of two movable jaws which are attached at diametrically opposite points to a steel ring. When the ring is not deformed the slit is closed. On the other hand, when the ring is compressed the two points at which the jaws are attached to the ring move apart and the slit opens. This is shown in Fig.1, in which 1 is the steel ring and 2 are the two jaws. It was shown in (Ref.1) that the changes in the vertical and the horizontal diameter of the ring when it is compressed are proportional to each other. This ensures a linear dependence between the slit width and the motion of the diameter screw which is used to compress the ring. A photograph of the slit is shown

Cont 1/2

1.0-3-35/40

A Spectrographic Slit with a Steel Ring Control.

In Fig. 5. The slit and its control are accurately parallel and is similar in design to that of Grosswhite and Feltic (Ref. 2). The present work was carried out in 1948. There are 3 figures and 2 references, 1 Russian and 1 English.

ASSOCIATION: **Institute of Physics** L. P.M. Lobedev, Academy of Sciences USSR (Fizicheskoy Institut, L. P.M. Lobedev AN SSSR)

SUBMITTED: February 20, 1957.

AVAILABLE: Library of Congress.

Card 2/2 1. Spectrographic slit-Control-Operation

AUTHORS:

IVANTSOV, L.M.
 Ivantsov, L.M., Konstantinov, I.I., Sukhvalova, V.V., 32-11-24/60
 Shurygin, A.I.

TITLE:

Testing of the Spectral System "ФНАН" for the Determination of Phosphorus in Steel (Ispytaniya spektral'noy ustanovki "ФНАН" dlya opredeleniya fosfora v stali)

PERIODICAL:

Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 11, pp. 1329-1332 (USSR)

ABSTRACT:

In the Physical Institute AN USSR the second model of the experimental photoelectric plant for accelerated determination in steel during melting was tested. This work was carried out under operational conditions in the "Azovstal'" works together with the institute mentioned in the time between 1954 and 1956. The phosphorus content determined usually amounted to 0.01-0.8%; samples were taken from a melt mass of 350 t; every day up to 300 experiments were carried out. During experimental work about 15.000 spectral determinations of phosphorus were carried out and a total of about 1000 melting processes subjected to spectral-chemical supervision. According to the new scheme the spectral plants consist of the following parts: Autocollimation mirror monochromator with constant deflection, double light transmission through a dispersion prism of transparent quartz, controlled revolution which makes it possible, together with the flat mirror, to lead the spectral lines

Card 1/2

TESTING of the Spectral System "ФНАН" for the Determination of Phosphorus in Steel 32-11-24/60

to the output gap of the monochromator, in which case, because of the accurate adjustment of the output gap, a micrometric shifting of this gap is required. Operation of the device is automatized. The angular dispersion of the plants permits the faultless separation of the line P 2136.2 Å. Further data are: practical spectral height 10 mm, inner diameter of the input gap 0.02 mm, inner diameter of the output gap 0.027 mm. The process of spectral analysis is described. The analysis takes about 4 minutes, doubled: 5 minutes. In order to increase the reliability of operation a double system is recommended. There are 5 figures and 1 table.

ASSOCIATION: Physical Institute imeni P.N.Lebedev AN USSR and "Asovstal'" Works (Fizicheskii institut im. P.N.Lebedev Akademii Nauk SSSR i zavod "Asovstal'")

AVAILABLE: Library of Congress

Card 2/2

IVANTSOV, L.M.; KONSTANTINOV, I.I.; SUKHOVALOVA, V.V.; SHURYGIN, A.I.

Industrial testing of an experimental spectral photoelectric
apparatus for the rapid determination of phosphorus in steel.
Fiz.sbor. no.4:388-392 '58. (MIRA 12:5)

1. Soyuznyy metallurgicheskiy ordena Lenina zavod "Azovstal'"
imeni Sergo Ordzhonikidze.
(Steel--Analysis) (Phosphorus--Spectra)

IRANTSOV, L.M.

24(7)

PLANE I BOOK EXPLANATION

Nov. Universitet

Materialy I Vsesoyuznogo sovetskoye po spektroskopii, 1956.
t. III. Atomnaya spektroskopiya (Materialy of the 10th All-Union
Conference on Spectroscopy, Vol. 3: Atomic Spectroscopy)
Moscow: Izdatel'stvo Leningradskogo univ., 1958. 568 p. (Series: Itis-
vicheskii sbornik, vyp. 4(9)). 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po
spektroskopii.

Editorial Board: G.S. Landsberg, Academician, (Resp. Ed.);
B.S. Reprent, Doctor of Physical and Mathematical Sciences;
L.L. Fabelinskii, Doctor of Physical and Mathematical Sciences;
V.A. Fabelinskii, Doctor of Physical and Mathematical Sciences;
G.D. Koritskiy, Candidate of Technical Sciences; S.K. Rayzsky,
Candidate of Physical and Technical Sciences; L.A. Klyachko,
Candidate of Physical and Mathematical Sciences; V.S. Milyanchuk
(Chairman), Doctor of Physical and Mathematical Sciences;
G.D. Koritskiy, Doctor of Physical and Mathematical Sciences;
G.D. Koritskiy, Doctor of Physical and Mathematical Sciences;
M.I. G.L. Gaser, Tech. Ed.; T.V. Saranyuk.

Function: This book is intended for scientists and researchers in
the field of spectroscopy as well as for technical personnel
using spectrum analysis in various industries.

Contents: This volume contains 177 scientific and technical studies
of atomic spectroscopy presented at the 10th All-Union Confer-
ence on Spectroscopy in 1956. The studies were carried out by
members of scientific and technical institutes and include
extensive bibliographies of Soviet and other sources. The
studies cover many phases of spectroscopy: spectra of rare earths,
electromagnetic radiation, physicochemical methods for controlling
uranium production, physics and technology of gas discharges,
optics and spectroscopy, abnormal dispersion in metal vapors,
spectroscopy and the combustion theory, spectrum analysis of ores
and minerals, photographic methods for quantitative spectrum
analysis of gases, alloys, and solid samples, determination of the
hydrogen content of metals by means of isotopic tables, and
analysis of spectral lines, spark spectrographic analysis,
statistical study of variation in the parameters of calibration
curves, determination of traces of metals, spectrum analysis in
metallurgy, thermochemistry in metallurgy, and principles and
practice of spectrochemical analysis.

Card 2/31

Materials on the 10th All-Union Conference (Cont.)

Korob'yev, G.D. Study of Minerals by Means of Spectrum Analysis 378

Stedlov, Z.M., and L.O. Fedorova. New Method for the Spectrum
Analysis of Minerals 381

Malandin, V.M., and S.L. Mandel'shtam. Possibility of the
Analysis of a Metal in an Electric Arc Furnace Without
Sampling 387

Kvantsov, L.M., I.I. Konstantinov, V.V. Subbotalova, and A.I.
Shurygin. Industrial Tests of an Experimental Photoelectric
Unit for Rapid Determination of Phosphorus in Steel 388

Popov, L.I. Methods of Calculating Calibration Curves for
the Determination of High Concentrations of Components in
Petrochemicals 392

Voronov, B.D. Spectral Studies of the Metals and Physics
Laboratory of the Stalingrad Branch of the Giproftekmash
Institute 395

Card 22/31

SOV/81-59-19-67767

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 19, p 132 (USSR)

AUTHORS: Ivantsov, L.M., Konstantinov, I.I., Sukhvalova, V.V., Shurygin, A.I.

TITLE: Industrial Tests of an Experimental Spectral Photoelectric Installation for the Quick Determination of Phosphorus in Steel (A Short Exposition of the Paper)

PERIODICAL: Fiz. sb. L'vovsk. un-t, 1958, Nr 4(9), pp 388 - 392

ABSTRACT: The analyzed samples contained 0.01 - 0.8% P. A two-prism quartz auto-collimation mirror monochromator of constant deflection separates the line P 2136.2 A, the intensity of which is automatically compared with the undecomposed light source. The conducted analysis is not inferior to the chemical marking analysis as far as accuracy is concerned. The time needed for analysis is 3.5 - 5 minutes.

L. Gribov

✓

Card 1/1

24(4)

SOV/51-6-6-31/34

AUTHORS: Vinogradova, A.K. and Ivantsov, L.M.

TITLE: Raster Illuminating Devices with Cylindrical Optics (Rastrovyye
osvetiteli s tsilindricheskoy optikoy)

PERIODICAL: Optika i spektroskopiya, 1959, Vol 6, Nr 6, pp 829-830 (USSR)

ABSTRACT: Raster illuminators with cylindrical lenses can be used to avoid selective radiation losses in spectral analysis. In the absence of a raster the source of light fills a collimator objective only along the vertical diameter (Fig 1a). If a raster is placed between the source and the slit it will not affect the uniformity of illumination of the slit and the way in which the objective is filled with light in the vertical direction. Raster affects strongly, however, illumination of the slit and light distribution of the collimator in the horizontal direction. Each of quasi-sources S^1, S^2, \dots, S^N produces its own zone of horizontal illumination. If necessary the focusing properties and dimensions of the raster lenses may be designed in such a way that the objective will be used fully in the horizontal direction (Fig 1b). It was found that, for the same illumination of the collimator objective in the horizontal direction, raster condenser is less sensitive to horizontal and vertical displacements of the light source than a three-lens condenser.

Card 1/2

Raster Illuminating Devices with Cylindrical Optics

SOV/51-6-6-31/34

It follows that selective losses due to motion of the source are practically eliminated when a cylindrical-lens raster is used. Advantages of a raster illuminator with cylindrical lenses over a system using three lenses are illustrated by graphs of the distribution of blackening along the spectral lines of Fe I and Fe II at 2662 and 2665 Å (Fig 2). Fig 2a shows the blackening along iron lines obtained with a raster illuminator and Fig 2b shows the blackening along iron lines when a three-lens illuminator was used. There are 2 figures and 2 English references.

Card 2/2

24(7)

SCV/48-23-9-26/57

AUTHORS: Butslov, M. M., Vinogradova, A. K., Ivantsov, L. L., Kutuzova, G. N., Mandel'shtam, S. L.

TITLE: A Photoelectric Stylometer With Visual Control of the Position of Invisible Lines of the Spectrum

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 9, pp 1110 - 1112 (USSR)

ABSTRACT: By replacing the glass-dispersion optical system by a quartz- (Fig 1) or diffraction optical system (Fig 2), the range of applicability of the FES-1-type stylometer may be considerably extended, especially if, by means of an electron-optical converter, the invisible lines of the spectrum may be detected. Two variants of the type FES were developed and tested by the authors; the converter operates with an antimony-cesium-cathode; the device has an uv-transmissive window, so that a visual observation of the spectrum within the wave length range of 6000-2400 Å is possible. Figures 1 and 2 show the course of rays in these two instruments, in which the shifting of the spectrum with respect to the outlet slit is brought about by rotating the dispersion system. The line intensity of these

Card 1/2

A Photoelectric Stylometer With Visual Control of the Position of Invisible Lines of the Spectrum SOV/48-23-9-26/57

instruments is comparable to that of instruments, the spectrum of which has a length of 200-300 Å. Next, investigation of the lines by means of the electron-optical converter is described, and for both instruments a survey of the principal characteristic features is given. The focal distances of the mirror objectives of the collimator are 600 and 750 mm respectively, the refraction angle (quartz prism) in one of the instruments is 60°, whereas the diffraction grating of the other has 600 grating lines per millimeter. The electron-optical arrangement makes it possible to observe the fine details of complicated spectra, especially of iron, and this device is said to have a great future. There are 2 figures.

Card 2/2

SOV/48-23-9-27/57

24(7)

AUTHORS:

Atamanov, A. P., Balandin, V. N., Ivantsov, L. M.

TITLE:

On the Stabilization of the Position of a Spectrum by Keeping the Temperature of the Spectroscopical Apparatus Constant

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 9, pp 1112 - 1113 (USSR)

ABSTRACT:

Temperature variation impair the accuracy of photoelectric spectroscopical apparatus by shifting the spectrum relative to the gap. The authors kept the air temperature between the thermostat and the spectroscopical apparatus constant by means of an electric heater. The calculation of the heaters and their mode of operation is briefly discussed and the duration of heat pulses is given. The experiments were carried out on six different apparatus, three of which had a weight of 400-450 kg and a volume of 0.25 m³; the weights of the other three amounted to between 30 and 100 kg and had volumes of from 0.08 to 0.05 m³. The apparatus differed considerably both with respect to thermal inertia and in finish, and they were tested at the institute as well as in work-shop laboratories. Five of these apparatus were in wooden cases, and one of them in a case of duralumin. The diagram in figure 1 shows the stabilization of

Card 1/2

On the Stabilization of the Position of a Spectrum by SOV/48-23-9-27/57
 Keeping the Temperature of the Spectroscopical Apparatus Constant

temperature, the stabilization of the spectrum, and variations of air pressure in apparatus Nr 1 with a weight of 450 kg over a period of 70 hours. After establishment of equilibrium the temperature fluctuated not more than 0.1°C and the shifting of a Hg-line amounted to an average of only 2.5μ . The variation of air pressure of 5 to 10 torr caused no noticeable shifting of the line. In the case of the other five instruments the results differed but little from those mentioned, but, obviously, the time needed for heating up to a certain temperature depended on the size of each individual apparatus. The authors hope that this method may be applied also to the DFS-10 type instrument, which has a weight of 1.5 to 2 tons and a volume of roughly 1 m^3 . There is 1 figure.

Card 2/2

SCV/48-23-9-28/57

24(7)

AUTHORS:

Ivantsov, L. M., Sherudilo, A. I.

TITLE:

A Photoelectric Attachment for Spectrographs of Medium Size Models

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 9, pp 1114 - 1115 (USSR)

ABSTRACT:

This photoelectric attachment was developed for spectrographs of the type ISP-22, and figure 1 shows an optical scheme of this arrangement. In the focal plane of the spectrograph a quartz plate is arranged, on which, in an impermeable aluminum layer transmissive slits are provided. The light incident through the slits is deflected to photoelectric cells of the type STsV-6 by means of mirrors. An automatic thermostat prevents a thermal shifting of the lines, and, by means of a suitable construction, a shifting of the lines in the case of a variation of a slit width is prevented. In this way it is possible, when passing over to a new program, to avoid the time-consuming adjustment necessary for finding the desired lines. Further, the authors developed a special apparatus for the cutting of the passage slits according to a given spectro-

Card 1/2

A Photoelectric Attachment for Spectrographs of
Medium Size Models

SOV/48-23-9-28/57

gram, in which case cutting of the slits is carried out at the moment when the desired line is recorded photoelectrically at the slit of the microphotometer. The minimum distance between slits is 0.01 mm, and the shifting between the centers of the slit and the line amounts to 1-2 μ . In conclusion, the mode of operation of the device is discussed. After establishment of thermal equilibrium the relative line intensities are unchanged with respect to time, and the signals in the various channels are in the range of 0.5 - 2.5 v. The errors in the reproducibility of the intensity of ratios of several iron lines amounted to about 0.5 - 0.7%. There are 2 figures and 2 references, 1 of which is Soviet.

Card 2/2

S/032/62/028/012/006/023
B104/B186

AUTHORS: Gerken, Ye. B., Ivantsov, L. M., and Kostin, B. I.
TITLE: The use of ultrasound for inserting solutions into the light source for spectral analysis
PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 12, 1962, 1451-1454

TEXT: The assembly shown in Fig. 1 is described. Acid solutions, after ultrasonic dispersal, are blown through a nozzle into an a-c arc discharge gap. The assembly was designed at the Institut akustiki Akademii nauk SSSR (Institute of Acoustics of the Academy of Sciences USSR). The ultrasonic generator has a peak power of ~ 200 w, operating on 2.5 Mcps. The full power of the generator could not be utilized as bubbles arose interfering with the operation of the assembly. At the operating power and frequency the size of drops was 1-3 μ . Increasing the temperature of the solutions from 22 to 36°C intensified the density of the 3247-Å Cu-line from 0.53 to 1.03. The fog reaching through the ducts the nozzle is not contaminated by precipitates from previous experiments. There is also no selective entrance of elements into the discharge gap. The sensitivity and the

Card 1/3

The use of ultrasound for inserting...

S/032/62/028/012/006/023
B104/B186

reproducibility of the results are the same as in the known methods of emissive spectral analysis for solutions. Half a year's experience with the aerosol producing device shows that its operation is reliable and has stable characteristics. There are 3 figures and 2 tables.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh metallov (State Scientific Research Institute of Nonferrous Metals)

Figure 1. Experimental arrangement. Legend: (1) piezoelectric disperser, (2) glass container, (3) bottom of the container made of teflon film, (4) water, (5) conical separator, (6) fog duct, (7) nozzle, (A) oscillational generator, (b) gas (air), (C) fog, (D) electrodes, (E) air stream.

Card 2/3

BELYAYEV, Yu.I.; IVANTSOV, L.M.; KOSTIN, B.I.

Recording spectra by electrophotographic materials. Zav.lab. 29
no.2:174-178 '63. (MIRA 16:5)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo
AN SSSR.

(Spectrophotometry)

IVANTSOV, L. M.

The Second All-Union Conference on the Preparation and Analysis of High-Purity Elements, held on 24-28 December 1963 at Gorky State University im. N. I. Lobachevskiy, was sponsored by the Institute of Chemistry of the Gorky State University, the Physicochemical and Technological Department for Inorganic Materials of the Academy of Sciences USSR, and the Gorky Section of the All-Union Chemical Society im. D. I. Mendeleev. The opening address was made by Academician N. M. Zhavoronkov. Some 90 papers were presented, among them the following:

V. A. Novoselov and T. K. Aydarov. Spectrochemical analysis for S, Se, Te, Sb in InAs.

L. M. Ivantsov. Possibilities of increasing sensitivity of emission spectroscopy.

A. M. Bulgakova, N. P. Zalyubovskaya, and L. S. Manzheliy. A high-sensitivity amperometric method for determining I, Mo, and Tu in LiF, CdS, NaI, CsI, and other single crystals.

(Zhur ANAL. Khim, 19 No. 6, 1964 p. 777-79)

IVANTSOV, L. M. Moscow

"Zur Empfindlichkeitssteigerung direkter photoelektrischer Methoden der Spektralanalyse."

report submitted for 2nd Intl Symp on Hyperpure Materials in Science and Technology, Dresden, GDR, 28 Sep-2 Oct 65.

Institut geokhimii i analiticheskoy khimii im Vernadskiy Akademii nauk SSSR, Moscow.

BELYAYEV, Yu. I.; IVANTSOV, L. M.; KOSTIN, B. I.; SHEMET, V. V.

"O povyshenich chuvstvitel'nosti pryamykh fotoelektricheskikh metodov
emissionnogo spektral'nogo analiza."

report submitted for 2nd Intl Symp on Hyperpure Materials in Science and
Technology, Dresden, GDR, 28 Sep-2 Oct 65.

Institut geokhimii i analiticheskoy khimii im Vernadskiy Akademii nauk
SSSR, Moscow.

L 12109-66 EWT(1)/EWT(m)/EWP(t)/EWP(b)/EWA(h)

IJP(c) JD/QS/AT

ACC NR: AT5026378

SOURCE CODE: UR/0000/65/000/000/0020/0032

AUTHOR: Belyayev, Yu. I.; Ivantsov, L. M.

ORG: None

TITLE: Modern techniques of further improvement in the sensitivity, accuracy, and productivity of photoelectric methods of spectral analysis

SOURCE: AN SSSR. Institut geokhimi i analiticheskoy khimii. Sovremennyye metody analiza; metody issledovaniya khimicheskogo sostava i stroeniya vashchestv (Modern methods of analysis; methods of investigating the chemical composition and structure of substances), 20-32

TOPIC TAGS: photoelectric method, spectral line, optic analysis, electronic computer, computer application, SIGNAL TRANSMISSION, PHOTOELECTRIC DETECTION EQUIPMENT

ABSTRACT: A review is presented of modern techniques in raising the sensitivity, accuracy, and productivity of photoelectric methods of spectral analysis and the results achieved by these methods. A brief review is also given of the advantages of apparatus with electronic computer devices at the output. It is noted that work on revealing resources in raising the sensitivity of photoelectric methods of spectral analysis has only begun. These resources depend on 1) possibilities

Card 1/2

IVANTSOV, M.G.; FINTUSHAL', F.V.

Precast elements are being introduced into housing construction. Transp.
stroil. 6 no. 10:6-7 0 '56. (MIRA 10:1)

1. Glavnyy inzhener tresta Yugoaptransstroy (for Ivantsov). 2. Zamestitel'
nachal'nika Tekhnicheskogo otdela tresta Yugoaptransstroy.
(Precast concrete construction)

IVANTSOV, M.G.

Completely precast assembly-line construction of utility buildings
for railroads. Transp.stroi. 7 no.5:10-11 My '57. (MIRA 10:11)

1. Glavnyy inzhener tresta Yugoaptransstroy.
(Railroads--Buildings and structures)

IVANTSOV, M.G.

We prepare for the shift to the shift to the seven-hour workday.
Transp. stroi. 10 no.9:4-6 S '60. (MIRA 13:9)

1. Glavnyy inzhener tresta Yugoaptransstroy.
(Hours of labor) (Transportation--Buildings and structures)

IVANTSOV, M.G.: SARANYUK, A.S., starshiy inzhener

Making girders designed by the Scientific Research Institute No.
200 N '60. Transp.stroi. 10 no.11:25-27 N '60. (MIRA 13:11)

1. Glavnyy inzhener tresta Ingozaptransstroy (for Ivantsov).
(Girders)

SHURYGIN, V.P., kand.tekhn.nauk; IVANTSOV, M.G., inzh.; KLEYMAN,
V.M., inzh.; MATSNEV, N.F., inzh.; FINTUSHAL', F.V., inzh.;
MUKHRANOV, M.A., inzh.; NIKOLAYEV, N.P., inzh.; ANOSHKIN,
A.I., inzh.; PILIPENKO, M.P., mekhanizator SMP-205; SAVIN,
V.D., mekhanizator SMP-205

"Over-all mechanization of construction in railroad electri-
fication" by A.P. Alekseev. Reviewed by V.P. Shurygin and
others. Transp. stroi. ll no.8:59-60 Ag '61. (MIRA 14:9)
(Railroads--Electrification)
(Alekseev, A.P.)

IVANTSOV, M.

112-1-560

Translation from; Referativnyy Zhurnal, Elektrotehnika, 1957, Nr 1, p. 93 (USSR)

AUTHOR: Ivantsov, M.

TITLE: Mechanization of Construction Work on Electric Transmission Lines
(Mekhanizatsiya stroitel'nykh rabot na liniyakh elektropredachi)

PERIODICAL: Sel'skiy stroitel', 1956, Nr 4, pp. 5-6

ABSTRACT: The following tasks were first mechanized during the construction of electric transmission lines by the Glav elektrosat'stroy: excavation (digging of pits, foundation pits, and ditches), erection of supporting structures, spooling off and stringing conductors. The "Б-450" pit-digger, mounted on the AT-54 or CT3-HATM tractors and also on automobiles is used for boring cylindrical pits 450 mm in diam. and 2 m deep; the capacity of the machine is 6 to 8 pits per hr. The "БН-7" boring machine, mounted on a C-80 tractor, is used for boring cylindrical holes 0.9 to 1.6-m in diameter and 2 m deep; its capacity is 6 to 8 holes per hr. The "БНК-9" drilling-crane machine mounted on the CT3-HATM or AT-54 tractors is designed for drilling cylindrical holes 0.4 to 0.7 m

Card 1/2

NOVIKOV, I.T.; NEPOROZHNIY, P.S.; GINZBURG, S.Z.; BELYAKOV, A.A.;
ERISTOV, V.S.; VOZNESENSKIY, A.N.; IVANTSOV, N.M.;
BOROVOY, A.A.; TERMAN, I.A.; ALEKSANDROV, B.K.;
YURINOV, D.M.; NOSOV, R.P.; MIKHAYLOV, A.V.; NICHIPOROVICH, A.A.;
ABELEV, A.S.; PROSKURYAKOV, B.V.; MENKEL', M.F.; KRITSKIY, S.N.;
BELYI, L.D.

Mikhail Evgen'evich Knorre. Gidr. stroi. 32 no.5: My '62.
(MIRA 15:5)
(Knorre, Mikhail Evgen'evich, 1876-1962)

IVANTSOV, O. M.

Sooruzheniye svarnykh metallicheskikh rezervuarov dlya khraneniya nefteproduktov
[construction of welded metallic reservoirs for storing petroleum products, by]

A. S. Fal'kavich, F. G. Khramikhin, O. M. Ivantsov, V. M. Orlov. Moskva, Gostoptekhzdat, 1953.

445 p. Illus., tables, diags.

SO: M/5
735.6
.F1

IVANTSOV, Oleg Maksimovich; TSENTSIPER, E.B., vedushchiy redaktor; ERDENKO,
B.S., tekhnicheskii redaktor

[Underground storage of petroleum products and liquified gases in
natural cavities; experiences in foreign countries.] Podzemnoe khra-
nenie nefteproduktov i szhizhennykh gasov v prirodnykh smekstakh;
zarubezhnyi opyt. Moskva, Gos.nauchno-tekhn. izd-vo nefti i
gorno-toplivnoi lit-ry, 1956. 53 p. (MLBA 9:7)
(Gases--Storage) (Petroleum products--Storage)

IVANTSOV, O.M.

Underground storage of petroleum products and compressed gases in
natural reservoirs. Stroi.pred.neft.prom.1 no.1:28-29 Mr '56.
(Petroleum--Storage) (Gas, Natural--Storage) (MLRA 9:9)

IVANTSOV, O.M., inzhener.

Selecting cranes for constructing industrial structures, at
oil refineries. Stroi.pred.neft.prom. 1 no.10:12-16 D 56.
(MIRA 10:2)

(Petroleum--Refineries) (Cranes, derricks, etc.)

BARIT, S., inzhener; IVANTSOV, O., inzhener.

One thousand two hundred fifty kolometers. Stroitel' 2 no.10:14-15
0 '56. (MIRA 10:1)

(Gas, Natural--Transportation)

IVANTSOV, O., inzhener.

Erecting columns in petroleum refining plants. Stroitel' 2 no.11:2-
4 N '56. (MIRA 10:1)

(Petroleum industry--Equipment and supplies)

IVANTSOV, O.M., inzh.
IVANTSOV, O.M., inzh.

Transportation of solid materials and slurries through pipelines.
Stroi.pred.neft.prom. 2 no.8:30-3 of cover Ag '57. (MIRA 11:1)
(United States--Pipelines)

SAFARYAN, M.K., kand.tekhn.nauk; IVANTSOV, O.M., nauchnyy red.; KAPKANETS,
V.I., red.; LEBEDEVA, D.V., tekhn.red.

[Steel tanks for petroleum products] Stal'nye rezervuary dlia
khraneniia nefteproduktov; issledovaniia raboty konstruksii.
Moskva, Otdel nauchno-tekhn.informatsii, 1958. 239 p.

(Tanks)

(MIRA 13:9)

IVANTSOV, O.M., laureat Leninskoy premii

Plastics for pipeline construction. Stroil. pred. neft. prom.
3 no.6:1-3 Je '58. (MIRA 11:7)
(Plastics) (Pipelines)

IVANTSOV, O.M., laureat Leninskoy premii

Insulation of pipelines in Czechoslovakia. Stroi. truboprov. 3
no.10:28-32 0 '58. (MIRA 11:11)
(Czechoslovakia--Protective conting)

IVANTSOV, O.M., laureat Leninskoy premii, inzh.

Underground storage of petroleum, petroleum products, and
liquid gases. Stroi.truboprov. 4 no.1:16-20 Ja '59.
(MIRA 12:1)

(Petroleum products--Storage)

11(2); 14(1)

SVN/95-59-6-3/12

AUTHORS: Ivantsov, O.M. and Gofman-Zakharov, P.M., Engineers (Moscow-Kiyev)

TITLE: Isothermic Reservoirs for Liquified Gas

PERIODICAL: Stroitel'stvo truboprovodov, 1959, Nr 6, pp 7 - 11 (USSR)

ABSTRACT: During the 7-Year plan production of liquified gas will be brought up to 3,800,000 tons per annum. The most effective method of storing liquified gas is in underground reservoirs. For storing propane at 0.034 atm a temperature of -43.4°C is required. Under ordinary conditions propane is kept in containers calculated for a pressure of 16-18 atm. Diagram 1 shows the layout of an isothermic reservoir with a refrigerating installation. The gas, which evaporates inside the reservoir, passes through a heat exchanger and compressor into a condenser at a pressure of 5-10 atm. The condensed liquid returns to the reservoir, after passing through the same heat exchanger. The refrigeration process of liquified gas in isothermic storage is shown in Graph 2. The refrigeration of liquified gas entering an isothermic reservoir is done by means of an intermediate cooling agent inside the reservoir. To the extent as the reservoir fills, the cooling agent is pumped out into a special tank passing through a heat exchanger in which it cools the

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Isothermic Reservoirs for Liquified Gas

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liquified gas on its way to the reservoir. A.P. Klimenko proposed to use diethyleneglycol as intermediate cooling agent, which is also a good moisture absorbent. The author is of the opinion that a saturated solution of sodium chlorite (brine) would answer the purpose as well. The pressure of vapors from liquid hydrocarbon in the reservoir can be cut down by lowering the temperature, which, however will increase the capacity and cost of the refrigerating installation. The author develops a number of formulae for calculating costs of the reservoir, of the refrigeration installation, of operating expenses, - as well as the most favorable operating conditions, as far as temperatures of isothermic storage of liquified gas are concerned. These as a rule are in the vicinity of temperatures corresponding to the pressure of vapors equal to 1.02 - 1.7 atm. The author refers to the installation of an isother-

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Isothermic Reservoirs for Liquified Gas

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mic reservoir, in Riverditel, Georgia, USA, built by the Atlanta Gas Light Co. which, according to the "Gas Age" journal of February 1957 issue, was the first installation of this kind in the USA, of which a photo is shown.

There are: 1 diagram, 2 graphs, 1 photo and 1 Soviet reference.

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IVANTSOV, Oleg Maksimovich; SHAKHMAIEVA, Ye.A., vedushchiy red.; RASTOVA,
G.V., vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Industrialization of pipeline construction] Industrializatsiia
stroitel'stva magistral'nykh truboprovodov. Moskva, Gos.nauchno-
tekhn.izd-vo nef. i gorno-toplivnoi lit-ry, 1960. 116 p.
(MIRA 13:5)

(Pipelines)

SIDORENKO, M.V., red.; VOLONIKHIN, Yu.V., red.; GORECHENKOV, G.I., red.;
IVANTSOV, O.M., red.; MAL'KOV, I.A., red.; TESNER, P.A., red.;
YENISHERLOVA, O.M., vedushchiy red.; RASTOVA, G.V., vedushchiy
red.; SOLGANIK, G.Ya., vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Techniques of the gas industry abroad; papers and reports
presented at the 7th International Gas Congress] Tekhnika zaru-
beznoi gazovoi promyshlennosti; doklady i referaty. Moskva,
Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1960.
367 p. (MIRA 13:11)

1. International Gas Congress. 7th, Roma.
(Gas industry)

AREF'YEVA, N.A., inzh.; IVANTSOV, O.M., inzh.; SAKHAROV, G.V., inzh.

Technical and economic indices of tanks for storing petroleum
products. Stroil. truboprov. 5 no.7:16-19 J1 '60. (MIRA 13:9)
(Tanks)

IVANTSOV, Oleg Maksimovich; POLYANSKIY, O.I., vedushchiy red.; MUKHINA,
E.A., tekhn. red.

[Underground storage of liquid hydrocarbon gases] Podzemnoe khranenie zhidkikh uglevodorodnykh gazov. Moskva, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-zy, 1961. 55 p.
(MIRA 14:9)

(Liquefied gases—Storage)

SAFARIAN, Miak Karapetovich, kand. tekhn.nauk; IVANTSOV, Oleg Maksimovich, inzh.; RABINOVICH, Ye.Z., red.; SOLOKHANIK, G.Ye., red.; FEDOTOVA, I.G., tekhn.red.

[Design and construction of steel tanks for petroleum products] Proektirovanie i soorushenie stal'nykh rezervuarov dlia nefteproduktov. Moskva, Gos.nauchno-tekhn. izd-vo nef. i gorno-toplivnoi lit-ry, 1961. 325 p. (MIRA 1415)
(Petroleum products--Storage)

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B126/B101

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AUTHOR:

Ivantsov, O. M.

TITLE:

Underground storage of petroleum products and gas

PERIODICAL:

Khimicheskaya promyshlennost', no. 7, 1962, 46 - 50

TEXT: This article deals with the construction of underground storage facilities for petroleum products in rocks, primarily in deposits of rock salt. In comparison with steel or reinforced concrete tanks the advantages of this storage are as follows: it is explosion- and fire-proof, the cost of construction is twice to four times lower and operation expenses are about 10 times lower; capital expenditure is 30 to 40 times lower than for steel tanks for liquid gas. The marketing properties of the products are not affected. Underground storage in deposits of rock salt is constructed by washing out cavities through boreholes. The minimum depth of storage below ground is 60 m for butane and 100 m for propane. The maximum pressure allowable is 100 - 120 atm. At a pressure of 100 atm and at 20°C 11 million m³ of gas can be stored in a chamber with a volume of 100,000 m³. VNIIST have worked out a method to estimate the structural strength of

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IVANTSOV, O., inzh., laureat Leninskoy premii

Providing reliable underground storehouses for the hundreds of
thousands tons of petroleum and gas. Tekh.mol. 31 no.4:35-36
'63. (MIRA 16:6)

(Petroleum--Storage) (Gas--Storage)

IVANTSOV, Oleg Maksimovich; ZUBAREVA, Ye.I., ved. red.

[Underground storage of liquefied hydrocarbon gases]
Podzemnoe khranenie szhizhzhennykh uglevodorodnykh
gazov. Izd.2., perer. i dop. Moskva, "Nedra," 1964.
145 p. (MIRA 17:5)

ZHDANOV, M.M.; KOSTRYUKOV, G.V.; ASFANDIYAROV, Kh.A.; MAKUTOV, R.A.;
KONDAKOV, A.N.; TURUSOV, V.M.; SILIN, V.A.; PILYUTSKIY, O.V.;
SHELDYBAYEV, B.F.; PETROV, A.A.; SMIRNOV, Yu.S.; KOLESNIKOV,
A.Ya.; DROZDOV, I.P.; IVANTSOV, O.M.; TSYGANOV, B.Ya.;
KORNONOGOV, A.P.; VDOVIN, K.I.; ALEKSEYEV, L.A.; GAYDUKOV, D.T.;
LIPCHENSKIY, A.Ya.; DANYUSHEVSKIY, V.S.; VEDISHCHEV, I.A.;
ALEKSEYEV, L.G.; KRASYUK, A.D.; IVANOV, G.A.

Author's communications. Neft. i gaz. prom. no.2:67-68
Ap-Je '64. (MIRA 17:9)

AZHOTKIN, G.I., red.; BESEDINA, O.S., red.; GIL', B.V., red.;
DULEYEV, Ye.M., red.; IVANTSOV, O.M., red.; KOGAN, G.Ye.,
red.[deceased]; KUZNETSOV, P.L., red.; LEVIN, F.D., red.;
SLANSKIY, D.A., red.; TELKOV, I.K., red.; KOMAROVA, L.,
ved. red.; KHRYASTOV, Yu., ved. red.

[Contribution of young specialists to the gas industry]
Vklad molodykh spetsialistov v gazovuiu promyshlennost'.
Moskva, 1964. 459 p. (MIRA 18:3)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy proizvodstvennyy
komitet po gazovoy promyshlennosti.

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E071/E180

18. 1110

AUTHORS: Gonchar, V.N., and Ivantsov, P.F.

TITLE: Alloying of steel 35Л (35L) with boron and cerium

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Chernaya metallurgiya, no.1, 1962, 160-168

TEXT: On the basis of literature data it was expected that boron and rare earth elements would improve the hardenability, plasticity and toughness of steel. Since the individual influence of boron and cerium on steel 35L (0.35% C, 0.73 Mn, 0.27 Si, 0.031 S, 0.03 P, 0.12 Cr, 0.15 Ni) was previously investigated, this steel was chosen. Boron and cerium, in the form of ferroalloys, were added in the ladle after deoxidizing the steel with aluminium. The concentration of boron and of cerium was nil, 0.1, 0.15 and 0.2%. It was established that in steel 35ЛР (35LR): 1) the introduction of an optimum amount of cerium (0.1-0.15%) refines the macrostructure and removes the transcrystallisation zone almost completely; 2) 0.10% cerium increases the plasticity and impact strength of cast and

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Alloying of steel 35L with boron... S/148/62/000/001/012/015
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annealed steel, and even more of normalised and fully heat treated steel. In the latter case 0.15% cerium is particularly effective - the impact strength is increased by a factor of 1.5-2.0, while other strength characteristics remain practically unchanged; 3) in the fully heat treated steel cerium increases the impact strength at subzero temperatures by a factor of 1.5-2.0; 4) in cast and normalised steel 0.1-0.15% cerium refines the microstructure and improves the uniformity of distribution of structural components. An increase in the cerium addition to 0.2% increases the amount of ferrite which is probably responsible for some decrease in strength; 5) cerium decreases the tendency to growth of austenite grains in boron containing steel; 6) simultaneous alloying with optimum quantities of boron and cerium improves plasticity, impact strength and hardenability; 7) Simultaneous alloying with boron and cerium should be tested on alloy structural steels. There are 6 figures and 3 tables.

ASSOCIATION: Chelyabinskiy politekhnicheskii institut
Card 2/2 (Chelyabinsk Polytechnical Institute)
SUBMITTED: December 14, 1960

IVANTSOV, P. N.

Fundamentals of the methods and technique of electrotherapy. prevod ot M. TSvetkova
i dr. Sofia. Lekarskata kooperatsiya. 1948. 116 p.

4Rm-32

NOVIKOV, V.; MATVEYEV, Yu.M.; RUZHINSKIY, M.B.; BATIST, A.I.; IOSSEL', G.;
KOROLEV, M.; IVANTSOV, V.; ARONOV, I.; SVETIAKOV, V.; ZAYONCHIK,
L.Z.; RASPOPOV, I.V.; SERDYUKOV, G.V.; GRISHKOV, A.I.; MAKEYEV, I.F.;
DELLO, A.A.; SHUMNAYA, V.A., inzh.; SPIRYAGIN, L.P., inzh.; GRISHKOV,
A.I.; KARDONOV, B.A.; BURDIN, V.M., kand. tekhn. nauk; MOLGACHEV,
D.A., inzh.; MUZALEVSKIY, O.G.; RIVKIN, A.A.; KEYS, N.V.; KOMISSAROV,
A.I.

New developments in research. Stal' 25 no.8:842-845 S '65.
(MIRA 18:9)

8(6), 28(1)

AUTHORS:

SOV/91-59-10-9/29
Ivantsov V.A. and Levich A.A., Engineers and Ukhin B.N.
Chief of the Chemical Department

TITLE:

Automatic Filling of Expenditure Tanks with Phosphates

PERIODICAL:

Energetik, 1959, Nr. 10, pp 18-20, (USSR)

ABSTRACT:

At the Nizhne-Turinskaya GRES, a phosphate solution is prepared in the department for chemical purifying of water. The solution is prepared in an installation consisting of a dissolving tank, into which chemically pure water and steam are fed, a coke filter, and two tanks for keeping the ready solution. For mixing the solution, pumping it into spare tanks and filling two expenditure tanks in the boiler room, two centrifugal pumps are used. The pipeline length from the spare tanks to the boiler room is about 320 m. Two workmen, one at the expenditure tanks and another at the pump, were required to operate the feed line. The Chief of the TsSTI "Sverdlovennergo", D.P. Larionov, proposed automation of the expenditure tank filling process by using a layout requiring a minimum quantity of cable (Fig. 1). For this purpose, a dif-

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